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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,046	06/15/2007	Taku Hirayama	SHIGA7.055APC	5635

20995 7590 04/24/2009  
KNOBBE MARTENS OLSON & BEAR LLP  
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IRVINE, CA 92614

EXAMINER
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JOHNSON, CONNIE P

ART UNIT	PAPER NUMBER
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1795

NOTIFICATION DATE	DELIVERY MODE
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04/24/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
eOAPilot@kmob.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,046	<b>Applicant(s)</b> HIRAYAMA ET AL.	
	<b>Examiner</b> CONNIE P. JOHNSON	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Response to Amendment***

1. The remarks and amendment filed 12/23/2008 have been entered and fully considered.
2. Claims 1-19 are presented.
3. Claims 1 and 8 are amended.
4. Claims 16-19 are new.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9, 11, 13-14 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoai et al., U.S. Patent No. 5,837,420.

Aoai teaches a photosensitive composition comprising a photoacid generator with an alkyl sulfonate anion (col. 6, formulas I-1 to I-5) and acid decomposing dissolution inhibiting compounds.

The acid decomposable dissolution inhibiting resin has a molecular weight of 2,000 to 200,000 and a molecular weight dispersity of 1.0 to 1.6 (col. 38, lines 56-67) in an amount of 40 to 99% by weight of acid decomposing groups (col. 39, lines 8-9).

The photosensitive composition also has a low molecular weight acid decomposing dissolution inhibiting compound with a molecular weight of 3,000 or less

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in an amount of 3 to 50% by weight (col. 71, lines 60-65). The compound exemplified as example (7) is representative of formula (I) in claim 2 (col. 49). Compound (7) includes 6 phenolic hydroxyl groups in an amount of 5 to 50mol% of dissolution inhibiting groups as claimed.

The photosensitive composition also has a nitrogen-containing compound (col. 73, lines 40-60).

The acid decomposition dissolution inhibiting compounds total 100% by weight as in instant claim 7.

Aoai also teaches a process of making a resist film comprising coating the photosensitive composition on a substrate, prebaked, exposed, post baked and developed to form a resist pattern (col. 82, lines 20-41).

Aoai does not specifically teach that the acid decomposing dissolution inhibiting resin that is used in combination with the low molecular weight compound has a molecular weight of less than 3,000. However, high molecular weight acid decomposing resins are well known in the art to cause damage to the photosensitive composition (col. 72, lines 51-65). The acid decomposing, dissolution inhibiting compounds have 2-10 phenolic hydroxyl groups to improve development latitude and stability of the photosensitive composition. Therefore, it would have been obvious to one of ordinary skill in the art to combine a low molecular weight acid decomposing resin with less than 10 phenolic hydroxyl groups with a low molecular weight acid decomposing, dissolution inhibiting compound with a molecular weight of 1,000 or less with reasonable expectation of forming a resist composition with high resolution and film thickness dependency.

***Response to Arguments***

8. Applicant's arguments filed 12/23/2008, with respect to the rejection(s) of claim(s) 1-9, 11 and 13-14 under 102(b) and claims 8, 10, 12 and 15 under 103(a) have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, new ground(s) of rejection are made herein.

***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CONNIE P. JOHNSON whose telephone number is (571)272-7758. The examiner can normally be reached on 7:30am-4:00pm Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Connie P. Johnson/  
Examiner, Art Unit 1795

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795